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Message-Id: <199605090327.WAA06642@uro.theporch.com>
Errors-To: ws4s@midtenn.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 182
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
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GLOWBUGS Digest 182

Topics covered in this issue include:

- 1) Homodyne Receivers & Polarplexors (Was 1-tube Superhet)
by ornitz@eastman.com (Ornitz_Barry)
- 2) 3 prong plugs
by kellymed@tmxbris.mhs.oz.au (Murray Kelly)
- 3) "How to Become a Radio Amateur"
by "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>

Date: Wed, 8 May 1996 11:21:06 -0400
From: ornitz@eastman.com (Ornitz_Barry)
To: boatanchors@theporch.com
Cc: glowbugs@theporch.com
Subject: Homodyne Receivers & Polarplexors (Was 1-tube Superhet)
Message-ID: <199605081521.AA15083@eastman.com>

The term homodyne is commonly applied to Doppler speed measuring radars like those used by the police. A Gunn (formerly Impatt, Trappatt or Klystron) oscillator provides both the radiated signal and the local oscillator to mix with the Doppler shifted reflected signals. The Doppler shift for commonly used police radar frequencies is in the audio range and the indicated speed is a direct function of the audio frequency output of the mixer. The method has the distinct advantage that the frequency stability of the oscillator is relatively unimportant, only the shift in

frequency is being measured. This is handy since the Gunn (and earlier) oscillators can drift hundreds of kilohertz for quite tiny temperature changes.

Early amateur communication over microwaves was often done with a somewhat related technique. Known as polarplexors for their use of crossed polarization to isolate the mixers from the high local oscillator levels, these radios could produce true duplex operation. [Today the technique uses Gunn oscillators and ferrite isolators or circulators and the equipment is called a Gunplexor.] The two radios transmitted continuously but with a difference frequency equal to the desired IF frequency. The incoming signal mixed with the local oscillator signal to produce a frequency equal to the offset IF. A surplus wideband FM receiver was commonly used at the IF. The oscillator was naturally frequency modulated, and the discriminator output of the receiver was commonly used in an AFC circuit. Modulation of either oscillator produced a FM signal at both IF outputs. Without AFC, you constantly had to chase each other over the band. With AFC, you still chased each other - but you did it automatically!

World War II surplus klystron tubes such as the 2K25 (X-band) made this experimentation possible. With the 2K25, it was necessary to grind off a small weld on the tuning screw assembly to pull the tube up into the amateur band. I believe QST in the late 1940's published some designs using this particular tube. I still have a 723/2K25 in the junk box, but modern Gunn oscillators are so easy to use....

If anyone has any magnetrons for sale with integral magnets for X-band and higher, please send me email - _IF_ you have the specs on the tubes.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

Date: Thu, 09 May 96 00:34:22 AES
From: kellymed@tmxbris.mhs.oz.au (Murray Kelly)
To: glowbugs@theporch.com
Subject: 3 prong plugs
Message-ID: <44@tmxbris.mhs.oz.au>

The 3 prong plugs with 'odd' angles are standard here.
The top 2 are at 60 deg included angle and the lower
one is vertical.

What do you call expensive? They may be quite inexpensive
mailed in bulk. There are wall outlets w/switches, line sockets
- you name it.

Cheers.

Murray Kelly. vk4aok.

Date: Wed, 8 May 1996 16:43:05 -0600 (MDT)
From: "James P. Rybak" <jrybak@mesa5.Mesa.Colorado.EDU>
To: Glowbugs <glowbugs@theporch.com>
Subject: "How to Become a Radio Amateur"
Message-ID: <Pine.SV4.3.91.960508164218.12666B-1000000@mesa5.mesa.colorado.edu>

I am looking for copies (either photocopies or originals) of "How to
Become A Radio Amateur" from the 1940's and 1950's. Can anyone help me?

Thanks.

Jim W0KSD

End of GLOWBUGS Digest 182
